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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,330	01/05/2001	J. Michael Weaver	0275D-000289	5073

7590 11/04/2004
Harness, Dickey & Pierce, P.L.C.
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Bloomfield Hills, MI 48303

EXAMINER

FLETCHER, MARLON T

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/755,330

Applicant(s)

WEAVER ET AL.

Examiner

Marlon T Fletcher

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 7-13, are rejected under 35 U.S.C. 102(b) as being anticipated by Herman et al. (5,907,205).

As recited in claims 1 and 11, Herman et al. (5,907,205) discloses a brushless DC motor, comprising; a rotor assembly (22) including a rotatable shaft (24) having a permanent magnet affixed to the shaft; a plurality of coils (30) for producing a magnetic field for applying a torque to the rotor assembly (22), said coils (30) including end turns that enclose the rotor assembly such that the rotor assembly is not removable (figures 4 and 5); a stator stack (32) made of a stator magnetic material for providing a magnetic flux return path as discussed in column 3, lines 38-50; a position sensor system (40) for sensing the positional relationship that the coils have with the permanent magnet (column 4, lines 45-65); and a controller coupled to the position sensor for controlling the application of a power source to the coils in response to the positional relationship of the coils and the permanent magnet (column 4, lines 45-65).

Herman et al. further disclose a plurality of coils for producing a magnetic field for applying a torque to the rotor assembly, said coils including end turns that enclose the rotor assembly such

that the rotor assembly is not removable, said end turns arranged to minimize any gap between respective ends of the rotor assembly and the end turns adjacent the respective ends of the rotor assembly (figures 5 and 6).

As recited in claim 7, Herman et al. discloses the DC motor, wherein the coils are layer wound as seen in figures 6 and 7B.

As recited in claims 8 and 12, Herman et al. disclose the DC motor, wherein the stator magnetic material is a laminated silicon steel as discussed in column 2, lines 50-57.

As recited in claims 9 and 13, Herman et al. disclose the DC motor, further comprising a position sensor system selected from the group comprised of: Hall effect sensors and leakage flux sensors as discussed in column 4, lines 57-65.

As recited in claim 10, Herman et al. discloses the DC motor, wherein the permanent magnet is magnetized after the plurality of coils are wound as discussed in column 4, lines 36-42.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herman et al. in view of Shramo.

Herman et al are discussed above. Herman et al. do not disclose a tube and a plurality of teeth.

However, with respect to claim 3, Shramo provides a winding form which further includes a tube, a plurality of teeth (figures 2 and 3).

As recited in claim 4, Shramo discloses the tube, end plug, and teeth are made from molded plastic (column 3, lines 31-36).

As recited in claims 5 and 6, Shramo discloses the DC motor, wherein the coils are wound in a three phase winding configuration selected from the group of: Delta configuration and Wye configuration as discussed in column 4, lines 59-65.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the teachings of Shramo with the apparatus of Herman et al., because it provides another design for applying the coils over the coil form, which provides more power or magnetic flux over the coil form.

Allowable Subject Matter

5. Claims 44-49 are allowed.

Response to Arguments

6. Applicant's arguments filed 08/16/2004 have been fully considered but they are not persuasive.

Applicant's remarks and amendments have been considered. The amendment regarding "said end turns arranged to minimize any gap between respective ends of the rotor assembly and the end turns adjacent the respective ends of the rotor assembly" is considered, but does not give substantial weight. What measures minimizing any gap? Any form of the turns being adjacent to one another can be an attempt to minimize any gap. For this reason, the amendment does not read over the prior art.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marlon T Fletcher whose telephone number is 571-272-2063. The examiner can normally be reached on M-W, F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Marlon T Fletcher
Primary Examiner
Art Unit 2837

MTF
November 1, 2004